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The Leu Ser Thr Val Ala Leu Ser Asn Pro Ser Ala Gly Gly Ala Arg 20 aat ttt gat ctg gat ttc aaa gga att cag aca aca act gat gct aaa Asn Phe Asp Leu Asp Phe Lys Gly Ile Gln Thr Thr Thr Asp Ala Lys 35 ggt ttc tcc aag cag ggg cag act ggt gct gct ttt ctg gtg gaa Gly Phe Ser Lys Gln Gly Gln Thr Gly Ala Ala Ala Phe Leu Val Glu 50 tct gaa aat gtg aaa ctc cca aaa ggt ttg cag aag acg ctt gaa aca Ser Glu Asn Val Lys Leu Pro Lys Gly Leu Gln Lys Lys Leu Glu Thr 65 gtc ccg gca aat aat aaa ctc cat att atc caa ttc aat gga cca att Val Pro Ala Asn Asn Lys Leu His Ile Ile Gln Phe Asn Gly Pro Ile 85 tta gaa gaa aca aaa cag cag ctg gaa aaa aca ggg gca aag att ctc Leu Glu Glu Thr Lys Gln Gln Leu Glu Lys Thr Gly Ala Lys Ile Leu 336	Met				Lys					Ser					Ala			48
Asn Phe Asp Leu Asp Phe Lys Gly Ile Gln Thr Thr Thr Asp Ala Lys ggt ttc tcc aag cag ggg cag act ggt gct gct ttt ctg gtg gaa Gly Phe Ser Lys Gln Gly Gln Thr Gly Ala Ala Ala Phe Leu Val Glu 50 tct gaa aat gtg aaa ctc cca aaa ggt ttg cag aag aag ctt gaa aca Ser Glu Asn Val Lys Leu Pro Lys Gly Leu Gln Lys Lys Leu Glu Thr 65 gtc ccg gca aat aat aaa ctc cat att atc caa ttc aat gga cca att Val Pro Ala Asn Asn Lys Leu His Ile Ile Gln Phe Asn Gly Pro Ile 85 tta gaa gaa aca aca cag cag ctg gaa aaa aca ggg gca aag att ctc Leu Glu Glu Thr Lys Gln Gln Leu Glu Lys Thr Gly Ala Lys Ile Leu 336		_	_	Thr	_			_	Asn			_		Gly	_			96
Gly Phe Ser Lys Gln Gly Gln Thr Gly Ala Ala Ala Phe Leu Val Glu 50 55 60 tct gaa aat gtg aaa ctc cca aaa ggt ttg cag aag aag ctt gaa aca Ser Glu Asn Val Lys Leu Pro Lys Gly Leu Gln Lys Lys Leu Glu Thr 65 70 75 80 gtc ccg gca aat aat aaa ctc cat att atc caa ttc aat gga cca att Val Pro Ala Asn Asn Lys Leu His Ile Ile Gln Phe Asn Gly Pro Ile 85 90 95 tta gaa gaa aca aaa cag cag ctg gaa aaa aca ggg gca aag att ctc Leu Glu Glu Thr Lys Gln Gln Leu Glu Lys Thr Gly Ala Lys Ile Leu			Asp					Gly					Thr				:	144
Ser Glu Asn Val Lys Leu Pro Lys Gly Leu Gln Lys Lys Leu Glu Thr 65 70 75 80 gtc ccg gca aat aat aaa ctc cat att atc caa ttc aat gga cca att Val Pro Ala Asn Asn Lys Leu His Ile Ile Gln Phe Asn Gly Pro Ile 85 90 95 tta gaa gaa aca aaa cag cag ctg gaa aaa aca ggg gca aag att ctc 336 Leu Glu Glu Thr Lys Gln Gln Leu Glu Lys Thr Gly Ala Lys Ile Leu		Phe					Gln					Ala					:	192
Val Pro Ala Asn Asn Lys Leu His Ile Ile Gln Phe Asn Gly Pro Ile 85 90 95 tta gaa gaa aca aaa cag cag ctg gaa aaa aca ggg gca aag att ctc Leu Glu Glu Thr Lys Gln Gln Leu Glu Lys Thr Gly Ala Lys Ile Leu	Ser	_				Leu				_	Gln	_	_		_	Thr	:	240
Leu Glu Glu Thr Lys Gln Gln Leu Glu Lys Thr Gly Ala Lys Ile Leu					Asn					Ile					Pro		:	288
		_	_	Thr		_	_	_	Ğlu				_	Lys			·	336

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		Pro Gln Leu	ttc aca aaa ggg Phe Thr Lys Gly 155	
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	Gly Ile Glu	_	caa ttc gca ata Gln Phe Ala Ile 190	
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		Gly Leu Pro	tcg aat ctg caa Ser Asn Leu Gln 315	
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aca aag gat gga Thr Lys Asp Gly 420				
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gag tcc agt tct Glu Ser Ser Ser 530		• •		
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cct gcg agc aca Pro Ala Ser Thr				
gtc att acc gct Val Ile Thr Ala 580				

tcg cca tac aat gat aac tgg gat ggc cgc aat aac gta gaa aat gta Ser Pro Tyr Asn Asp Asn Trp Asp Gly Arg Asn Asn Val Glu Asn Val 595 600 605	1824
ttt att aat gca cca caa agc ggg acg tat aca att gag gta cag gct Phe Ile Asn Ala Pro Gln Ser Gly Thr Tyr Thr Ile Glu Val Gln Ala 610 615 620	1872
tat aac gta ccg gtt gga cca cag acc ttc tcg ttg gca att gtg aat Tyr Asn Val Pro Val Gly Pro Gln Thr Phe Ser Leu Ala Ile Val Asn 625 630 635 640	1920
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Gly Phe Ser Lys Gln Gly Gln Thr Gly Ala Ala Ala Phe Leu Val Glu 50 55 60	
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Val Pro Ala Asn Asn Lys Leu His Ile Ile Gln Phe Asn Gly Pro Ile 85 90 95	
Leu Glu Glu Thr Lys Gln Gln Leu Glu Lys Thr Gly Ala Lys Ile Leu 100 105 110	
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Lys Ser Ala Thr Ser Thr Ile Glu His Val Glu Ser Val Glu Pro Tyr Leu Pro Ile Tyr Arg Ile Asp Pro Gln Leu Phe Thr Lys Gly Ala Ser Glu Leu Val Lys Ala Val Ala Leu Asp Thr Lys Gln Lys Asn Lys Glu 170 Val Gln Leu Arg Gly Ile Glu Gln Ile Ala Gln Phe Ala Ile Ser Asn Asp Val Leu Tyr Ile Thr Ala Lys Pro Glu Tyr Lys Val Met Asn Asp 200 195 Val Ala Arg Gly Ile Val Lys Ala Asp Val Ala Gln Ser Ser Tyr Gly Leu Tyr Gly Gln Gly Gln Ile Val Ala Val Ala Asp Thr Gly Leu Asp Thr Gly Arg Asn Asp Ser Ser Met His Glu Ala Phe Arg Gly Lys Ile Thr Ala Leu Tyr Ala Leu Gly Arg Thr Asn Asn Ala Asn Asp Thr Asn Gly His Gly Thr His Val Ala Gly Ser Val Leu Gly Asn Gly Ser Thr Asn Lys Gly Met Ala Pro Gln Ala Asn Leu Val Phe Gln Ser Ile Met Asp Ser Gly Gly Leu Gly Gly Leu Pro Ser Asn Leu Gln Thr Leu Phe Ser Gln Ala Tyr Ser Ala Gly Ala Arg Ile His Thr Asn Ser Trp 325 330

Gly Ala Ala Val Asn Gly Ala Tyr Thr Thr Asp Ser Arg Asn Val Asp 340 345 350

Asp Tyr Val Arg Lys Asn Asp Met Thr Ile Leu Phe Ala Ala Gly Asn 355 360 365

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580

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		tta Leu														576
		cta Leu 195														624
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		gga Gly														720
		cgc Arg														768
		tta Leu														816
ggt Gly		ggt Gly 275														864
aat Asn																912
gat Asp 305																960
ttc Phe																1008
gga Gly																1056
gac Asp																1104

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									ctt Leu 570							1728
gtc Val	att Ile	acc Thr	gct Ala 580	cca Pro	aat Asn	ggc Gly	aca Thr	cag Gln 585	tat Tyr	gta Val	gga Gly	aat Asn	gac Asp 590	ttt Phe	act Thr	1776
									cgc Arg							1824

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tat aac gta ccg gtt gga cca cag aac ttc tcg ttg gca att gtg aat Tyr Asn Val Pro Val Gly Pro Gln Asn Phe Ser Leu Ala Ile Val Asn 625 630 635 640	1920
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Glu Gly Pro Asn Gly Gly Thr Ile Ser Ala Pro Gly Thr Ala Lys Asn

360

375

355

Ala Ile Thr Val Gly Ala Thr Glu Asn Leu Arg Pro Ser Phe Gly Ser 395 390 Tyr Ala Asp Asn Ile Asn His Val Ala Gln Phe Ser Ser Arg Gly Pro 405 Thr Lys Asp Gly Arg Ile Lys Pro Asp Val Met Ala Pro Gly Thr Phe 420 Ile Leu Ser Ala Arg Ser Ser Leu Ala Pro Asp Ser Ser Phe Trp Ala 435 Asn His Asp Ser Lys Tyr Ala Tyr Met Gly Gly Thr Ser Met Ala Thr 450 455 Pro Ile Val Ala Gly Asn Val Ala Gln Leu Arg Glu His Phe Val Lys 465 470 Asn Arg Gly Ile Thr Pro Lys Pro Ser Leu Leu Lys Ala Ala Leu Ile 485 Ala Gly Ala Ala Asp Ile Gly Leu Gly Tyr Pro Asn Gly Asn Gln Gly 505 500 Trp Gly Arg Val Thr Leu Asp Lys Ser Leu Asn Val Ala Tyr Val Asn 515 Glu Ser Ser Ser Leu Ser Thr Ser Gln Lys Ala Thr Tyr Ser Phe Thr 530 Ala Thr Ala Gly Lys Pro Leu Lys Ile Ser Leu Val Trp Ser Asp Ala 560 545 550 Pro Ala Ser Thr Thr Ala Ser Val Thr Leu Val Asn Asp Leu Asp Leu 565 Val Ile Thr Ala Pro Asn Gly Thr Gln Tyr Val Gly Asn Asp Phe Thr 580 Ser Pro Tyr Asn Asp Asn Trp Asp Gly Arg Asn Asn Val Glu Asn Val 600 605 595

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610

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Lei	ı Sei	Th:	r Val	Ala	ı Lei	Xaa	a Asr	n Pro	Ser	- Ala	. Gly	. Xaa	. Ala	. Arg	Xaa
			20					25					30		
Phe	e Asp	Lei	ı Asp	Phe	: Lys	Gly	' Ile	e Gln	Thr	Thr	Thr	Asp	Xaa	Xaa	Gly
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65					70					75					80
Pro	Ala	Asn	Asn	Lys	Leu	His	Ιlе	Xaa	Gln	Phe	Asn	Gly	Pro	lle	Leu
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Gly Phe Ser Lys Gln Xaa Gln Thr Gly Ala Ala Ala Phe Leu Val Glu 50 55 60

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515 520 525

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Val Ile Thr Ala Pro Asn Gly Thr Xaa Tyr Val Gly Asn Asp Phe Xaa
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Xaa Pro Xaa Xaa Asn Trp Asp Gly Arg Asn Asn Val Glu Asn Val
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Tyr	lle	Pro	Asp	Tyr	Ala	Tyr	lle	Val	Glu	Tyr	Glu	Gly	Asp	Val	Gln	
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Glr	l Leu	Arg	Gly	lle	Glu	Glu	Ιle	Ala	Gln	Tyr	Val	Ala	Ser	Asn	Asp	
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Val	His	Tyr	lle	Thr	Ala	Lys	Pro	Glu	Tyr	Lys	Val	Met	Asn	Asp	Val	
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Tyr	Gly	Gln	Gly	Gln	lle	Val	Ala	Val	Ala	Asp	Thr	Gly	Leu	Asp	Thr	
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1 2 / 2 3

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gat agc ggt ggg gga ctt gga gga cta cct tcg aat ctg caa acc tta Asp Ser Gly Gly Leu Gly Gly Leu Pro Ser Asn Leu Gln Thr Leu 305 310 315 320 ttc agc caa gca tac agt gct ggt gcc aga att cat aca aac tcc tgg 1008 Phe Ser Gln Ala Tyr Ser Ala Gly Ala Arg [le His Thr Asn Ser Trp 325 330 335 gga gca gca gtg aat ggg gct tac aca aca gat tcc aga aat gtg gat 1056 Gly Ala Ala Val Asn Gly Ala Tyr Thr Thr Asp Ser Arg Asn Val Asp 340 345 350 gac tat gtg cgc aaa aat gat atg acg atc ctt ttc gct gcc ggg aat 1104 Asp Tyr Val Arg Lys Asn Asp Met Thr [le Leu Phe Ala Ala Gly Asn 355 360 365 gaa gga ccg aac ggc gga acc atc agt gca cca ggc aca gct aaa aat 1152 Glu Gly Pro Asn Gly Gly Thr Ile Ser Ala Pro Gly Thr Ala Lys Asn 370 375 380 gca ata aca gtc gga gct acg gaa aac ctc cgc cca agc ttt ggg tct 1200 Ala Ile Thr Val Gly Ala Thr Glu Asn Leu Arg Pro Ser Phe Gly Ser 385 390 395 400 tat gcg gac aat atc aac cat gtg gca cag ttc tct tca cgt gga ccg 1248 Tyr Ala Asp Asn Ile Asn His Val Ala Gln Phe Ser Ser Arg Gly Pro 405 410 415 aca aag gat gga cgg atc aaa ccg gat gtc atg gca ccg gga acg ttc 1296 Thr Lys Asp Gly Arg Ile Lys Pro Asp Val Met Ala Pro Gly Thr Phe 420 425 430 ata cta tca gca aga tct tct ctt gca ccg gat tcc tcc ttc tgg gcg 1344 lle Leu Ser Ala Arg Ser Ser Leu Ala Pro Asp Ser Ser Phe Trp Ala

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		43	5				44()				445				
aac	: cat	gao	c ag	t aaa	ı tat	gca	ı tad	ate	g ggt	gga	acg	tcc	atg	gct	aca	1392
Asn	His	: Ası	Sei	Lys	Tyr	· Ala	Tyr	Met	Gly	Gly	Thr	Ser	Me t	Ala	Thr	
	450)				455)				460					
ccg	atc	gtt	gct	gga	aac	gtg	gca	. cag	ctt	cgt	gag	cat	ttt	gtg	aaa	1440
Pro	[le	Val	Ala	Gly	Asn	Val	Ala	. Gln	Leu	Arg	Glu	His	Phe	Val	Lys	
465					470					475					480	
aac	aga	ggc	atc	aca	cca	aag	cct	tct	cta	tta	aaa	gcg	gca	ctg	att	1488
Asn	Arg	Gly	lle	Thr	Pro	Lys	Pro	Ser	Leu	Leu	Lys	Ala	Ala	Leu	lle	
				485					490					495		
gcc	ggt	gca	gct	gac	atc	ggc	ctt	ggc	tac	ccg	aac	ggt	aac	caa	gga	1536
Ala	Gly	Ala	Ala	Asp	Ile	Gly	Leu	Gly	Tyr	Pro	Asn	Gly	Asn	Gln	Gly	
			500					505					510			
tgg	gga	cga	gtg	aca	ttg	gat	aaa	tcc	ctg	aac	gtt	gcc	tat	gtg	aac	1584
Trp	Gly	Arg	Val	Thr	Leu	Asp	Lys	Ser	Leu	Asn	Val	Ala	Tyr	Val	Asn	
		515					520					525				
gag	tcc	agt	tct	cta	tcc	acc	agc	caa	aaa	gcg	acg	tac	tcg	ttt	act	1632
Glu	Ser	Ser	Ser	Leu	Ser	Thr	Ser	Gln	Lys	Ala	Thr	Tyr	Ser	Phe	Thr	
	530					535					540					
gct	act	gcc	ggc	aag	cct	ttg	aaa	atc	tcc	ctg	gta	tgg	tct	gat	gcc	1680
Ala	Thr	Ala	Gly	Lys	Pro	Leu	Lys	lle	Ser	Leu	Val	Trp	Ser	Asp	Ala	
545					550					555					560	

gtc att acc gct cca aat ggc aca cag tat gta gga aat gac ttt act 1776

cct gcg agc aca act gct tcc gta acg ctt gtc aat gat ctg gac ctt 1728

Pro Ala Ser Thr Thr Ala Ser Val Thr Leu Val Asn Asp Leu Asp Leu

565

570

9

630

Val [le Thr Ala Pro Asn Gly Thr Gln Tyr Val Gly Asn Asp Phe Thr 580 585 590 tcg cca tac aat gat aac tgg gat ggc cgc aat aac gta gaa aat gta 1824 Ser Pro Tyr Asn Asp Asn Trp Asp Gly Arg Asn Asn Val Glu Asn Val 595 600 605 ttt att aat gca cca caa agc ggg acg tat aca att gag gta cag gct 1872 Phe Ile Asn Ala Pro Gln Ser Gly Thr Tyr Thr Ile Glu Val Gln Ala 610 615 620 tat aac gta ccg gtt gga cca cag acc ttc tcg ttg gca att gtg aat 1920 Tyr Asn Val Pro Val Gly Pro Gln Thr Phe Ser Leu Ala Ile Val Asn

635

640

1923

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625

taa

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<212> Bacillus sp.

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Met Arg Lys Lys Lys Lys Val Phe Leu Ser Val Leu Ser Ala Ala Ala

5 10 15

att ttg tcg act gtt gcg tta agt aat cca tct gca ggt ggt gca agg 96

Ile Leu Ser Thr Val Ala Leu Ser Asn Pro Ser Ala Gly Gly Ala Arg

20 25 30

aat ttt gat ctg gat ttc aaa gga att cag aca aca act gat gct aaa 144

As	in Pt	ne A	4sp	Lei	ı Ası	Ph	e Ly	s Gl	y [l	e Gl	n Th	r Th	r Th	r Ası	o Ala	a Lys	
		Ś	35					40					45				
gg	t tt	c t	tcc	aag	g cag	g gg	g ca	g ac	t gg	t gc	t gc	t gc	t tt:	t cte	ggtg	g gaa	192
Gl	y Ph	e S	Ser	Lys	Glr	Gly	/ Glr	ı Th	r Gl	y Al	a Ala	a Ala	a Phe	e Lei	ı Val	l Glu	
	50						55					60					
tc	t ga	a a	a t	gtg	aaa	cto	сса	aaa	gg g	t tt	g cas	g aag	g aag	ctt	gaa	aca	240
Se	r Gl	u A	sn	Val	Lys	Leu	Pro	Lys	Gly	/ Lei	ı Glr	ı Lys	Lys	Leu	Glu	Thr	
65						70					75					80	
gto	CC	g g	ca	aat	aat	aaa	ctc	cat	att	ato	caa	ı tto	aat	gga	cca	att	288
Va]	Pro	o A	la.	Asn	Asn	Lys	Leu	His	Ile	Ile	Gln	Phe	Asn	Gly	Pro	[le	
					85					90					95		
tta	. gaa	ı ga	aa a	aca	aaa	cag	cag	ctg	gaa	aaa	aca	ggg	gca	aag	att	ctc	336
Leu	Glu	ı Gl	lu 1	Thr	Lys	Gln	Gln	Leu	Glu	Lys	Thr	Gly	Ala	Lys	lle	Leu	
]	100					105					110			
gac	tac	at	ac	cct	gat	tat	gct	tac	att	gtc	gag	tat	gag	ggc	gat	gtt	384
Asp	Tyr	Ιl	e P	ro	Asp	Tyr	Ala	Tyr	lle	Val	Glu	Tyr	Glu	Gly	Asp	Val	
		11	5					120					125				
aag	tca	gc	a a	.ca	agc	acc	att	gag	cac	gtg	gaa	tcc	gtg	gag	cct	tat	432
Lys	Ser	Al	a T	hr	Ser	Thr	lle	Glu	His	Val	Glu	Ser	Val	Glu	Pro	Tyr	
	130						135					140					
														ggg			430
Leu	Pro	H	e T	yr a	∤rg	lle	Asp	Pro	Gln	Leu	Phe	Thr	Lys	Gly	Ala	Ser	
145						150					155					160	
														aat			528
Glu	Leu	Val	L	/S /	la V	/al /	Ala I	Leu	Asp	Thr	Lys	Gln	Lys	Asn	Lys	Glu	
				1	65					170					175		



gtg	caa	a tt	a ag	a gg	c at	c gaa	ı caa	ato	gca	. caa	ttc	gca	ata	agc	aat	576
Val	Gli	n Le	u Ar	g Gl	y [l	e Glu	u Glm	lle	e Ala	Gln	Phe	Ala	lle	Ser	Asn	
			18	0				185	5				190			
gat	gts	gct	a ta	t at	t ac	g gca	aag	cct	gag	tat	aag	gtg	atg	aat	gat	624
Asp	Val	Le	u Tyi	r [le	e Thi	- Ala	. Lys	Pro	Glu	Tyr	Lys	Val	Met	Asn	Asp	
		199	5				200					205				
gtt	gcg	g cg	t gga	att	gto	aaa	gcg	gat	gtg	gct	cag	agc	agc	tac	ggg	672
Val	Ala	ı Arg	g Gly	/ Ile	e Val	Lys	Ala	Asp	Val	Ala	Gln	Ser	Ser	Tyr	Gly	
	210)				215					220					
ttg	tat	gga	ı caa	gga	. cag	atc	gta	gcg	gtt	gcc	gat	aca	ggg	ctt	gat	720
Leu	Tyr	Gly	'Gln	Gly	Gln	Ιle	Val	Ala	Val	Ala	Asp	Thr	Gly	Leu	Asp	
225	•				230					235					240	
aca	ggt	cgc	aat	gac	agt	tcg	atg	cat	gaa	gcc	ttc	cgc	ggg	aaa	att	768
Thr	Gly	Arg	Asn	Asp	Ser	Ser	Met	His	Glu	Ala	Phe	Arg	Gly	Lys	Ile	
				245					250					255		
act	gca	tta	tat	gca	ttg	gga	cgg	acg	aat	aat	gcc	aat	gat	acg	aat	816
Thr	Ala	Leu	Tyr	Ala	Leu	Gly	Arg	Thr	Asn	Asn	Ala	Asn	Asp	Thr	Asn	
			260					265					270			
ggt	cat	ggt	acg	cat	gtg	gct	ggc	tcc	gta	tta	gga	aac	ggc	tcc	act	864
Gly	His	Gly	Thr	His	Val	Ala	Gly	Ser	Val	Leu	Gly	Asn	Gly	Ser	Thr	
		275					280					285				
aat	aaa	gga	atg	gcg	cct	cag	gcg	aat	cta	gtc	ttc	caa	tct	atc	atg	912
Asn	Lys	Gly	Met	Ala	Pro	Gln	Ala	Asn	Leu	Val	Phe	Gln	Ser	lle	Me t	
	290					295					300					
gat	agc	ggt	ggg	gga	ctt	gga	gga	cta	cct	tcg	aat	ctg	caa	acc	tta	960
4sp	Ser	Glv	Glv	Glv	Leu	GIV	GIV	len	Pro	Ser	Jon	الم أ	Cin	Thr	الما	

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ttc agc caa gca tac agt gct ggt gcc aga att cat aca aac tcc tgg 1008 Phe Ser Gln Ala Tyr Ser Ala Gly Ala Arg [le His Thr Asn Ser Trp gga gca gca gtg aat ggg gct tac aca aca gat tcc aga aat gtg gat 1056 Gly Ala Ala Val Asn Gly Ala Tyr Thr Thr Asp Ser Arg Asn Val Asp gac tat gtg cgc aaa aat gat atg acg atc ctt ttc gct gcc ggg aat 1104 Asp Tyr Val Arg Lys Asn Asp Met Thr Ile Leu Phe Ala Ala Gly Asn gaa gga ccg aac ggc gga acc atc agt gca cca ggc aca gct aaa aat 1152 Glu Gly Pro Asn Gly Gly Thr Ile Ser Ala Pro Gly Thr Ala Lys Asn gca ata aca gtc gga gct acg gaa aac ctc cgc cca agc ttt ggg tct 1200 Ala Ile Thr Val Gly Ala Thr Glu Asn Leu Arg Pro Ser Phe Gly Ser tat gcg gac aat atc aac cat gtg gca cag ttc tct tca cgt gga ccg 1248Tyr Ala Asp Asn Ile Asn His Val Ala Gln Phe Ser Ser Arg Gly Pro aca aag gat gga cgg atc aaa ccg gat gtc atg gca ccg gga acg ttc 1296 Thr Lys Asp Gly Arg Ile Lys Pro Asp Val Met Ala Pro Gly Thr Phe ata cta tca gca aga tct tct ctt gca ccg gat tcc tcc ttc tgg gcg 1344 lle Leu Ser Ala Arg Ser Ser Leu Ala Pro Asp Ser Ser Phe Trp Ala aac cat gac agt aaa tat gca tac atg ggt gga acg tcc atg gct aca 1392





Asn His Asp Ser Lys Tyr Ala Tyr Met Gly Gly Thr Ser Met Ala Thr ccg atc gtt gct gga aac gtg gca cag ctt cgt gag cat ttt gtg aaa 1440 Pro [le Val Ala Gly Asn Val Ala Gln Leu Arg Glu His Phe Val Lys aac aga ggc atc aca cca aag cct tct cta tta aaa gcg gca ctg att 1488 Asn Arg Gly Ile Thr Pro Lys Pro Ser Leu Leu Lys Ala Ala Leu Ile gcc ggt gca gct gac atc ggc ctt ggc tac ccg aac ggt aac caa gga 1536 Ala Gly Ala Ala Asp Ile Gly Leu Gly Tyr Pro Asn Gly Asn Gln Gly tgg gga cga gtg aca ttg gat aaa tcc ctg aac gtt gcc tat gtg aac 1584 Trp Gly Arg Val Thr Leu Asp Lys Ser Leu Asn Val Ala Tyr Val Asn gag tcc agt tct cta tcc acc agc caa aaa gcg acg tac tcg ttt act 1632 Glu Ser Ser Leu Ser Thr Ser Gln Lys Ala Thr Tyr Ser Phe Thr gct act gcc ggc aag cct ttg aaa atc tcc ctg gta tgg tct gat gcc 1680 Ala Thr Ala Gly Lys Pro Leu Lys Ile Ser Leu Val Trp Ser Asp Ala cct gcg agc aca act gct tcc gta acg ctt gtc aat gat ctg gac ctt 1728 Pro Ala Ser Thr Thr Ala Ser Val Thr Leu Val Asn Asp Leu Asp Leu gtc att acc gct cca aat ggc aca cag tat gta gga aat gac ttt act 1776 Val Ile Thr Ala Pro Asn Gly Thr Gln Tyr Val Gly Asn Asp Phe Thr



tcg cca tac aat gat aac tgg gat ggc cgc aat aac gta gaa aat gta 1824 Ser Pro Tyr Asn Asp Asn Trp Asp Gly Arg Asn Asn Val Glu Asn Val 595 600 605 ttt att aat gca cca caa agc ggg acg tat aca att gaa gta cag gct 1872 Phe Ile Asn Ala Pro Gln Ser Gly Thr Tyr Thr Ile Glu Val Gln Ala 610 615 620 tat aac gta ccg gtt gga cca cag aac ttc tcg ttg gca att gtg aat 1920 Tyr Asn Val Pro Val Gly Pro Gln Asn Phe Ser Leu Ala Ile Val Asn 625 630 635 640 taa 1923